

## IN THE CLAIMS

Please cancel claims 10-20 and 22-24 and add claims 30-115.

Presented below are all the amended and added claims in clean unmarked form. The claims in marked-up form, are presented as an attachment .

A1  
Sub B1  
1. [Amended] Porous composite product with a homogeneous structure, characterized in that it is formed of a polymeric material and at least 20% by weight of one or more fillers and in that the said product is capable of being obtained by extrusion.

4. [Amended] Composite product according to claim 1, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of polyolefins, acrylic polymers, aromatic polymers, polyamides, polyimides, and vinyl polymers with a high proportion of ethyl monomers.

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A2  
5. [Amended] Composite product according to claim 4, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of polyethylenes, polypropylenes and ethylene- $\alpha$ -olefin copolymers. ?

Sub B2  
6. [Amended] Composite product according to claim 4 or 5, characterized in that the thermoplastic elastomers, soluble in polar organic solvents or water, which remain after the implementation of the manufacturing process are chosen from polyethers, poly(vinyl alcohol)s or ethylene-vinyl alcohol copolymers.

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7. [Amended] Composite product according to claim 6, characterized in that the composite product comprises :

- 10 to 40% by weight of polyolefin,

- 5 to 40% by weight of polyether,
- fillers, sufficient quantity for 100% by weight.

8. [Amended] Composite product according to claim 1, characterized in that the filler is chosen from fillers with a high specific surface.

21. [Amended] Extruded composite precursor, comprising one or more insoluble polymers, one or more other soluble or calcinable polymers and one or more fillers, in particular with a high specific surface.

25. [Amended] Application of the composite products according to either of claims 71 or 90 for the electrochemical storage of energy.

26. [Amended] Application of the composite products according to either claims 71 or 90 for packaging or insulation.

27. [Amended] Application of the composite products according to claims 92 for selective filtration.

28. [Amended] Application of the composite products according to either of claims 71 or 90 for electrodialysis or capacitive deionization processes.

29. [Amended] Application of the composite products according to either of claims 71 or 90 for the electrolysis process.

Sub 33  
30. (New) Porous composite product with a homogeneous structure, characterized in that it is formed of a polymeric material and it comprises between 30% and 85% by weight of one or more fillers and in that the said product is capable of being obtained by extrusion.

31. (New) Porous composite product according to claim 30, characterized in that it exhibits a high specific surface.

32. (New) Composite product according to claim 30, characterized in that the mean diameter of the pores is less than 0.5  $\mu\text{m}$ .

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33. (New) Composite product according to claim 30, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of polyolefins, acrylic polymers, aromatic polymers, polyamides, polyimides, and vinyl polymers with a high proportion of ethyl monomers.

Sub 34  
34. (New) Composite product according to claim 33, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of fluorinated polyolefins.

35. (New) Composite product according to claim 30, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of thermoplastic polymers and elastomers, soluble in polar organic solvents or water, which remain after the implementation of the manufacturing process.

36. (New) Composite product according to claim 33, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of polyethylenes, polypropylenes, and ethylene- $\alpha$ -olefin copolymers.

37. (New) Composite product according to claim 33, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of thermoplastic polymers and elastomers, soluble in polar organic solvents or water, which remain after the implementation of the manufacturing process.

38. (New) Composite product according to either of claims 33, characterized in that the thermoplastic elastomers, soluble in polar organic solvents or water, which remain after the implementation of the manufacturing process are selected from polyethers, poly(vinyl alcohol)s and ethylene-vinyl alcohol copolymers.

39. (New) Composite product according to claim 38, characterized in that the thermoplastic elastomers, soluble in polar organic solvents or water, which remain after the implementation of the manufacturing process are polyethers with a molecular mass of between 200,000 and 1,000,000.

40. (New) Composite product according to claim 38, characterized in that the composite product comprises :

- 10 to 40% by weight of polyolefin,
- 5 to 40% by weight of polyether,
- fillers, sufficient quantity for 100% by weight.

41. (New) Composite product according to claim 30, characterized in that the filler is chosen from fillers with a high specific surface.

42. (New) Composite product according to claim 41, characterized in that the filler is chosen from fillers composed of active charcoal, inorganic particles or metallic particles.

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43. (New) Composite product according to claim 41, characterized in that the filler exhibits a specific surface of between 300 and 3000 m<sup>2</sup>/g.

44. (New) Composite product according to claim 30, characterized in that it comprises 50 to 85% by weight of filler.

45. (New) Composite product according to claim 30, characterized in that it exhibits a "BET" specific surface of greater than 10 m<sup>2</sup>/g.

46. (New) Composite product according to claim 45, characterized in that it exhibits a "BET" specific surface of greater than 20 m<sup>2</sup>/g.

47. (New) Composite product according to claim 30, characterized in that it is provided in the form of a film.

48. (New) Composite product according to claim 47, characterized in that the product in the form of a film exhibits a tensile strength at break of greater than 4 MPa.

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49. (New) Composite product according to claim 48, characterized in that the product exhibits a tensile strength at break of greater than 6 MPa.

50. (New) Composite product according to claim 30, characterized in that it is provided in the form of granules.

51. (New) Porous composite product with a homogeneous structure, characterized in that it is formed of a polymeric material and at least 20% by weight of one or more fillers, in that the said product is capable of being obtained by extrusion and in that it exhibits a "BET" specific surface of greater than 10 m<sup>2</sup>/g.

52. (New) Composite product according to claim 51, characterized in that the mean diameter of the pores is less than 0.5 μm.

53. (New) Composite product according to claim 51, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of polyolefins, acrylic polymers, aromatic polymers, polyamides, polyimides, and vinyl polymers with a high proportion of ethyl monomers.

54. (New) Composite product according to claim 53, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of fluorinated polyolefins.

55. (New) Composite product according to claim 51, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of thermoplastic

polymers and elastomers, soluble in polar organic solvents or water, which remain after the implementation of the manufacturing process.

56. (New) Composite product according to claim 53, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of polyethylenes, polypropylenes, and ethylene- $\alpha$ -olefin copolymers.

57. (New) Composite product according to claim 53, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of thermoplastic polymers and elastomers, soluble in polar organic solvents or water, which remain after the implementation of the manufacturing process.

58. (New) Composite product according to claim 53, characterized in that the thermoplastic elastomers, soluble in polar organic solvents or water, which remain after the implementation of the manufacturing process are chosen from polyethers, poly(vinyl alcohol)s or ethylene-vinyl alcohol copolymers.

59. (New) Composite product according to claim 58, characterized in that the thermoplastic elastomers, soluble in polar organic solvents or water, which remain after the implementation of the manufacturing process are polyethers with a molecular mass of between 200,000 and 1,000,000.

60. (New) Composite product according to claim 58, characterized in that the composite product comprises :

- 10 to 40% by weight of polyolefin,

- 5 to 40% by weight of polyether,
- fillers, sufficient quantity for 100% by weight.

61. (New) Composite product according to claim 51, characterized in that the filler is chosen from fillers with a high specific surface.

62. (New) Composite product according to claim 61, characterized in that the filler is chosen from fillers composed of active charcoal, inorganic particles or metallic particles.

63. (New) Composite product according to claim 61, characterized in that the filler exhibits a specific surface of between 300 and 3000 m<sup>2</sup>/g.

64. (New) Composite product according to claim 51, characterized in that it comprises between 30% and 85% by weight of filler.

65. (New) Composite product according to claim 64, characterized in that it comprises 50 to 85% by weight of filler.

66. (New) Composite product according to claim 51, characterized in that it exhibits a "BET" specific surface of greater than 20 m<sup>2</sup>/g.

67. (New) Composite product according to claim 51, characterized in that it is provided in the form of a film.



68. (New) Composite product according to claim 67, characterized in that the product in the form of a film exhibits a tensile strength at break of greater than 4 MPa.

69. (New) Composite product according to claim 68, characterized in that the product exhibits a tensile strength at break of greater than 6 MPa.

70. (New) Composite product according to claim 51, characterized in that it is provided in the form of granules.

71. (New) Porous composite product with a homogeneous structure, characterized in that it is formed of a polymeric material and at least 20% by weight of one or more fillers, in that the said product is capable of being obtained by extrusion and in that it is provided in the form of a film.

72. (New) Porous composite product according to claim 71, characterized in that it exhibits a high specific surface.

73. (New) Composite product according to claim 71, characterized in that the mean diameter of the pores is less than 0.5  $\mu\text{m}$ .

74. (New) Composite product according to claim 71, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of polyolefins, acrylic polymers, aromatic polymers, polyamides, polyimides, and vinyl polymers with a high proportion of ethyl monomers.

75. (New) Composite product according to claim 74, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of fluorinated polyolefins.

76. (New) Composite product according to claim 71, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of thermoplastic polymers and elastomers, soluble in polar organic solvents or water, which remain after the implementation of the manufacturing process.

77. (New) Composite product according to claim 74, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of polyethylenes, polypropylenes, and ethylene- $\alpha$ -olefin copolymers.

78. (New) Composite product according to claim 74, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of thermoplastic polymers and elastomers, soluble in polar organic solvents or water, which remain after the implementation of the manufacturing process.

79. (New) Composite product according to claim 74, characterized in that the thermoplastic elastomers, soluble in polar organic solvents or water, which remain after the implementation of the manufacturing process are chosen from polyethers, poly(vinyl alcohol)s or ethylene-vinyl alcohol copolymers.

80. (New) Composite product according to claim 79, characterized in that the thermoplastic elastomers, soluble in polar organic solvents or water, which remain after the implementation of

the manufacturing process are polyethers with a molecular mass of between 200,000 and 1,000,000.

81. (New) Composite product according to claim 79, characterized in that the composite product comprises :

- 10 to 40% by weight of polyolefin,
- 5 to 40% by weight of polyether,
- fillers, sufficient quantity for 100% by weight.

82. (New) Composite product according to claim 71, characterized in that the filler is chosen from fillers with a high specific surface.

83. (New) Composite product according to claim 82, characterized in that the filler is chosen from fillers composed of active charcoal, inorganic particles or metallic particles.

84. (New) Composite product according to claim 82, characterized in that the filler exhibits a specific surface of between 300 and 3000 m<sup>2</sup>/g.

85. (New) Composite product according to claim 71, characterized in that it comprises between 30% and 85% by weight of filler.

86. (New) Composite product according to claim 85, characterized in that it comprises 50 to 85% by weight of filler.

87. (New) Composite product according to claim 71, characterized in that it exhibits a "BET" specific surface of greater than 10 m<sup>2</sup>/g.

88. (New) Composite product according to claim 87, characterized in that it exhibits a "BET" specific surface of greater than 20 m<sup>2</sup>/g.

89. (New) Composite product according to claim 71, characterized in that it is provided in the form of a film.

90. (New) Composite product according to claim 89, characterized in that the product in the form of a film exhibits a tensile strength at break of greater than 4 MPa.

91. (New) Composite product according to claim 90, characterized in that the product exhibits a tensile strength at break of greater than 6 MPa.

92. (New) Porous composite product with a homogeneous structure, characterized in that it is formed of a polymeric material and at least 20% by weight of one or more fillers, in that the said product is capable of being obtained by extrusion and in that it is provided in the form of a granules.

93. (New) Porous composite product according to claim 92, characterized in that it exhibits a high specific surface.

94. (New) Composite product according to claim 92, characterized in that the mean diameter of the pores is less than 0.5 μm.

95. (New) Composite product according to claim 92, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of polyolefins, acrylic polymers, aromatic polymers, polyamides, polyimides, and vinyl polymers with a high proportion of ethyl monomers.

96. (New) Composite product according to claim 95, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of fluorinated polyolefins.

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97. (New) Composite product according to claim 92, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of thermoplastic polymers and elastomers, soluble in polar organic solvents or water, which remain after the implementation of the manufacturing process.

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98. (New) Composite product according to claim 95, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of polyethylenes, polypropylenes, and ethylene- $\alpha$ -olefin copolymers.

99. (New) Composite product according to claim 95, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of thermoplastic polymers and elastomers, soluble in polar organic solvents or water, which remain after the implementation of the manufacturing process.

100. (New) Composite product according to claim 95, characterized in that the thermoplastic elastomers, soluble in polar organic solvents or water, which remain after the implementation of the manufacturing process are chosen from polyethers, poly(vinyl alcohol)s or ethylene-vinyl alcohol copolymers.

101. (New) Composite product according to claim 100, characterized in that the thermoplastic elastomers, soluble in polar organic solvents or water, which remain after the implementation of the manufacturing process are polyethers with a molecular mass of between 200,000 and 1,000,000.

102. (New) Composite product according to claim 100, characterized in that the composite product comprises :

- 10 to 40% by weight of polyolefin,
- 5 to 40% by weight of polyether,
- fillers, sufficient quantity for 100% by weight.

103. (New) Composite product according to claim 92, characterized in that the filler is chosen from fillers with a high specific surface.

104. (New) Composite product according to claim 103, characterized in that the filler is chosen from fillers composed of active charcoal, inorganic particles or metallic particles.

105. (New) Composite product according to claim 103, characterized in that the filler exhibits a specific surface of between 300 and 3000 m<sup>2</sup>/g.

106. (New) Composite product according to claim 92, characterized in that it comprises between 30% and 85% by weight of filler.

107. (New) Composite product according to claim 106, characterized in that it comprises 50 to 85% by weight of filler.

108. (New) Composite product according to claim 92, characterized in that it exhibits a "BET" specific surface of greater than  $10 \text{ m}^2/\text{g}$ .

109. (New) Composite product according to claim 108, characterized in that it exhibits a "BET" specific surface of greater than  $20 \text{ m}^2/\text{g}$ .

110. (New) Composite product according to claim 92, characterized in that it is provided in the form of a film.

111. (New) Composite product according to claim 4, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of fluorinated polyolefins.

112. (New) Composite product according to claim 1, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of thermoplastic polymers and elastomers, soluble in polar organic solvents or water, which remain after the implementation of the manufacturing process.

113. (New) Composite product according to claim 4, characterized in that the polymeric material comprises elastomers or polymers selected from the group consisting of thermoplastic polymers

and elastomers, soluble in polar organic solvents or water, which remain after the implementation of the manufacturing process.

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114. (New) Composite product according to claim 6, characterized in that the thermoplastic elastomers, soluble in polar organic solvents or water, which remain after the implementation of the manufacturing process are polyethers with a molecular mass of between 200,000 and 1,000,000.

115. (New) Composite product according to claim 8, characterized in that the filler is chosen from fillers composed of active charcoal, inorganic particles or metallic particles.